

Review of DDMI's Proposal for Infilling Open Pits with Processed Kimberlite

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prepared on behalf of Tlicho Government

6 September 2019

to accompany 1 August 2019 Technical Submission to
Mackenzie Valley Review Board

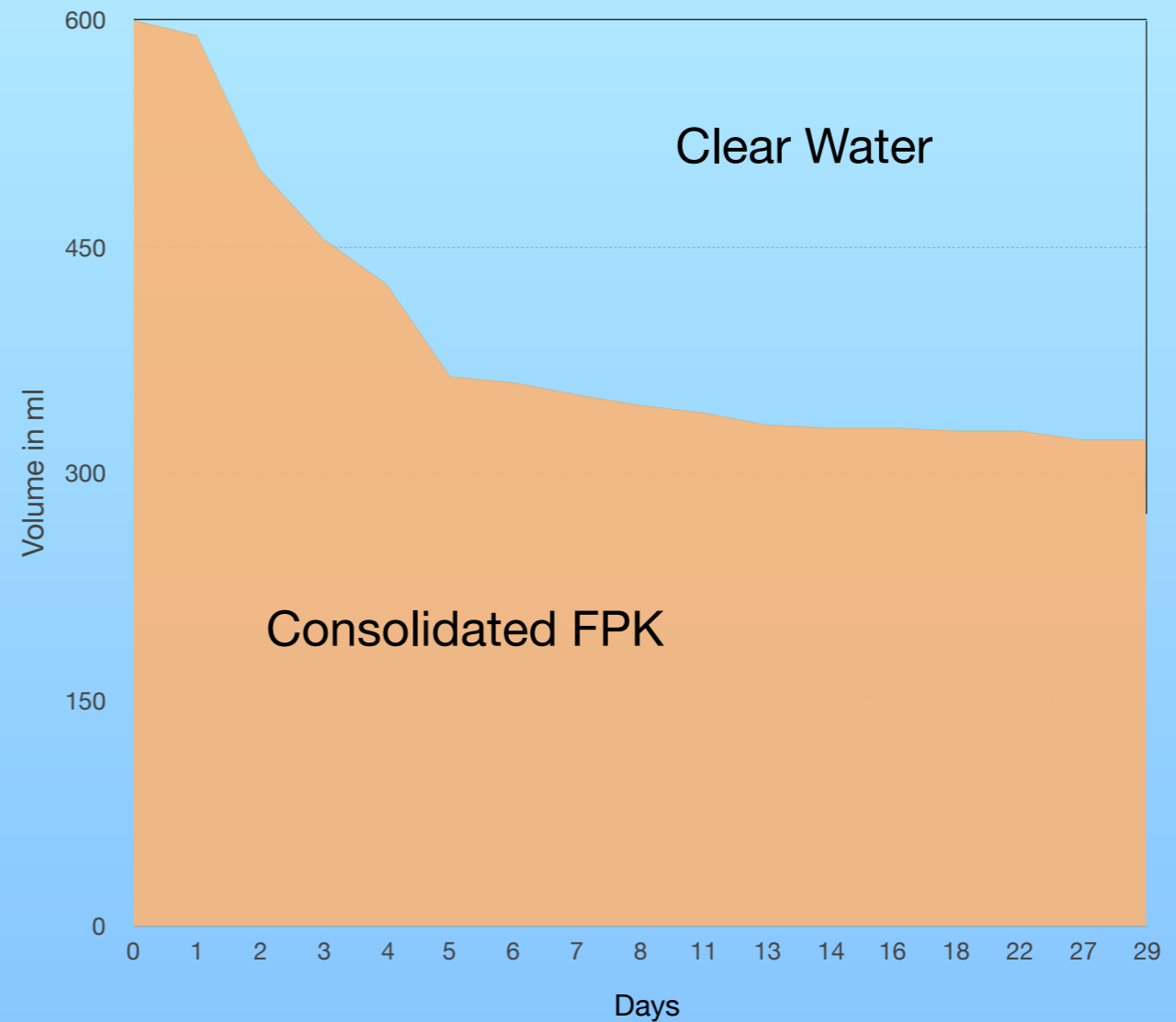
Key Points

1. The essential question for this review is whether EFPK deposited in the open pits will stay in the bottom layers and not move into or affect the overlying water column.
2. DDMI's case asserts that EFPK will not pose an environmental issue rests entirely on its WQ modelling.
3. Reviewers have identified substantive uncertainties about the assumptions and data used in the modelling such that results are questionable.
4. DDMI has stated throughout that its work is conservative, precautionary, and that it has a 'high level of confidence in its conclusions', yet assumptions and theoretical values for modelling the behaviour of EFPK were used instead of available real data.
5. DDMI itself has recognized that additional modelling— including, particularly, for EFPK consolidation— is required but proposes to do this AFTER it receives its approvals from MVRB and WLWB. This work is required to demonstrate the viability of the project BEFORE approval by MVRB and BEFORE licensing by the WLWB.

Consolidation Test BH 10-05; 6 m depth

DAY	LAYER 1	LAYER 2	LAYER 3
0	600	0	0
1	590	10	0
2	501	99	0
3	455	145	0
4	425	175	0
5	364	236	0
6	360	240	0
7	352	248	0
8	345	255	0
11	340	260	0
13	332	268	0
14	330	270	0
16	330	270	0
18	328	272	0
22	328	272	0
27	322	278	0
29	322	278	0

FPK Without EFPK

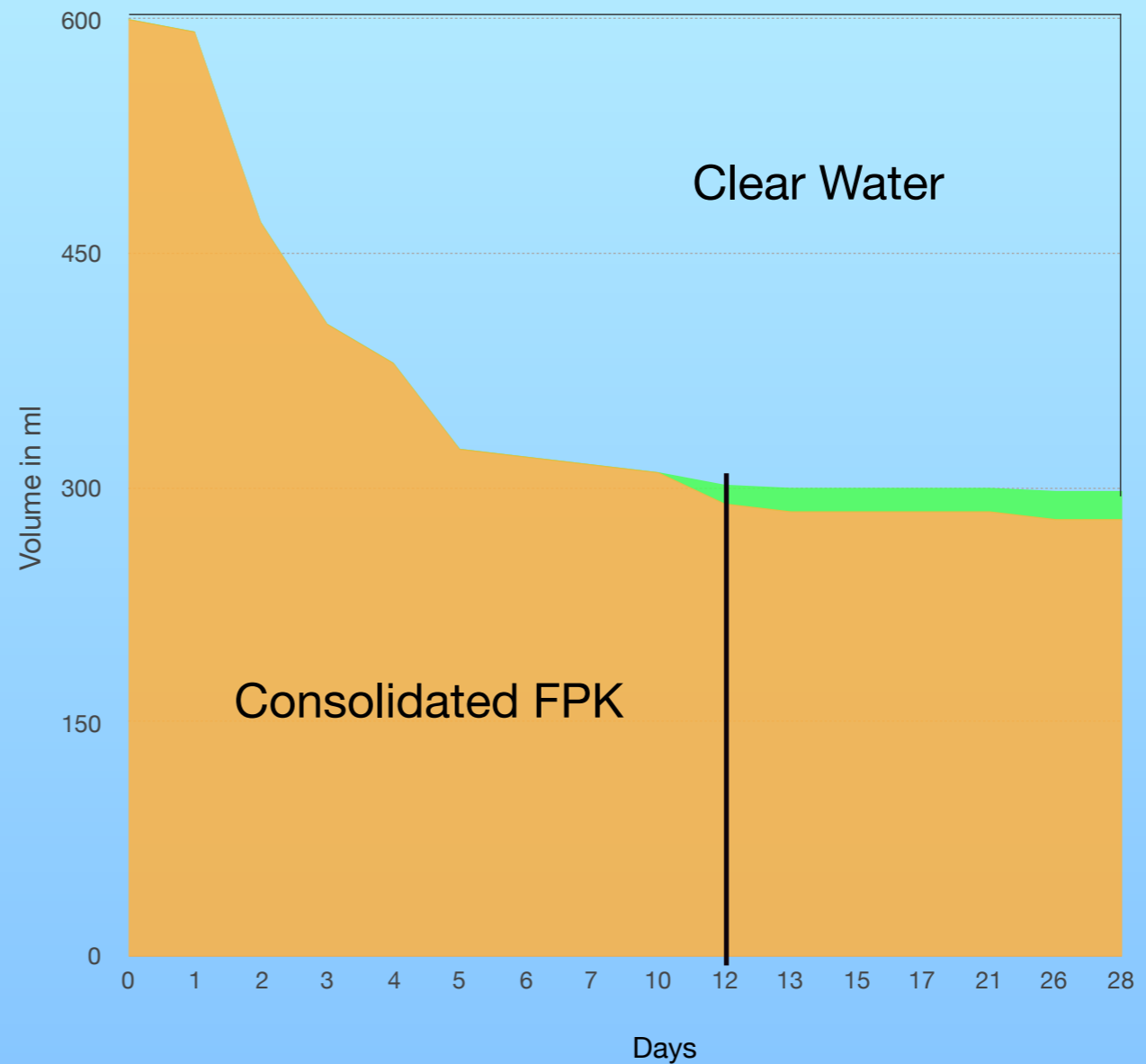


Typical Settling & Consolidation for Mine Tailings

Consolidation Test BH 10-05; 12 m depth

DAY	LAYER 1	LAYER 2	LAYER 3
0	600	0	0
1	592	13	0
2	470	135	0
3	405	200	0
4	380	225	0
5	325	280	0
6	320	285	0
7	315	290	0
10	310	295	0
12	290	303	12
13	285	305	15
15	285	305	15
17	285	305	15
21	285	305	15
26	280	307	18
28	280	307	18

FPK with EFPK



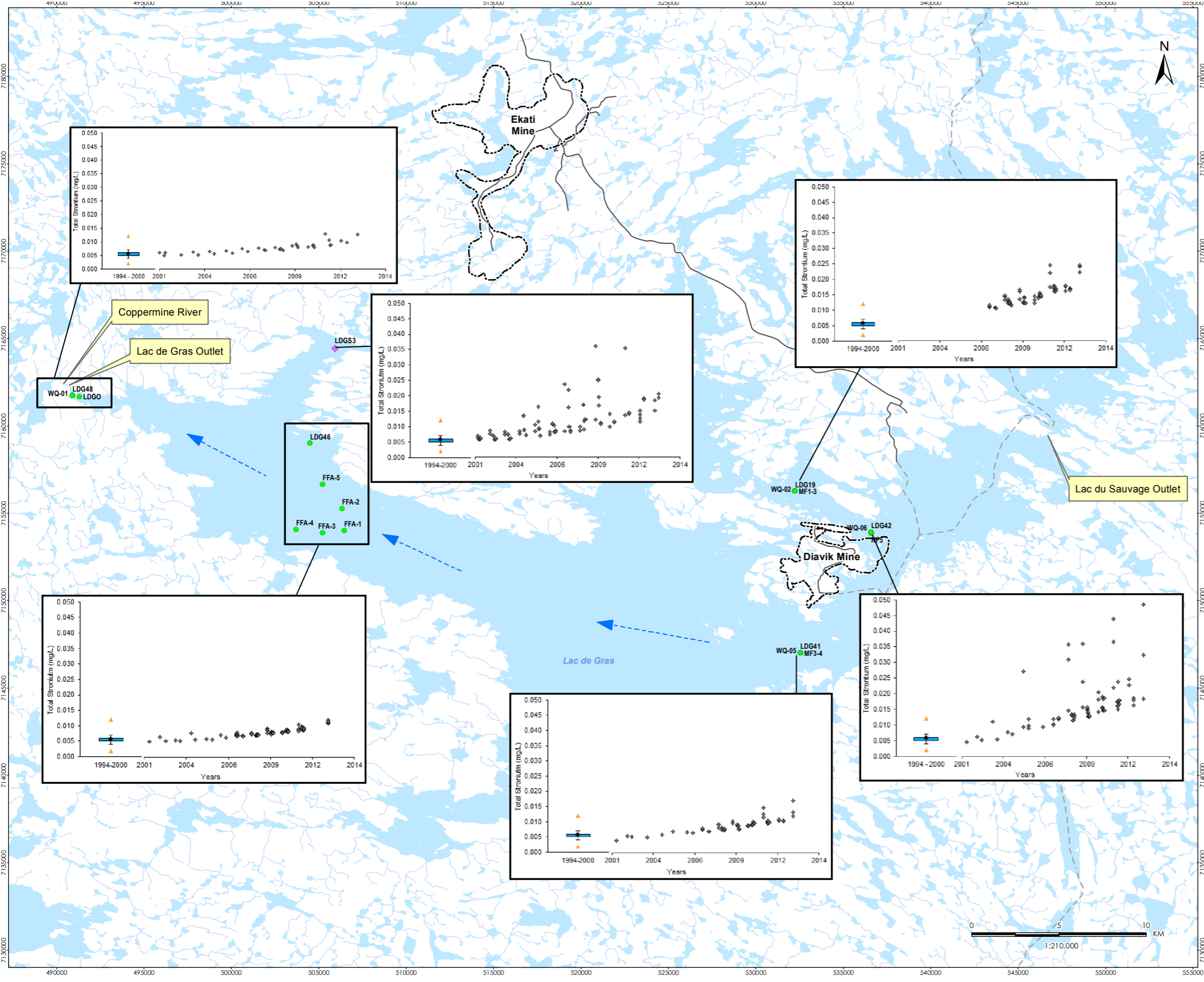
Anomalous Settling & Consolidation of FPK



Deton' Cho Stantec

Legend

- Mine Footprint
- Diavik Sample Site
- Ekati Sample Site
- Mine Road
- Winter Road
- Waterbody
- Approximate Flow Direction



Notes

1. Coordinate System: NAD 1983 UTM Zone 12N
2. Base features source: CANVEC dataset from Geografis © Natural Resources Canada, 2013.

Client/Project
Government of the Northwest Territories
Lac de Gras Water Chemistry, Spatial Variability and Temporal Trends

Figure No.

3-29

Title

Baseline (1994 – 2000) and Post-Baseline (2001 – 2013) Total Strontium Concentrations across Lac de Gras, NT

April 2015
144901977

Conclusion & Recommendations

DDMI has not sufficiently demonstrated the environmental viability of its proposal, such that approval by MVRB at this point is premature. The Board should undertake the following, short exercises to greatly increase the certainty of the project's success:

1. The Board should commission an independent, qualified expert on clay hydrodynamics to review DDM's treatment of EFPK characteristics in its assessment of potential impacts to pit WQ; and,
2. concurrently with #1, commission an independent review of DDMI's WQ modelling in order to ensure that the methods and assumptions used, and the results generated, are reasonable and reliable.
3. The Board should include potential cumulative impacts to LdG as a component of the review.